Short-Term Cleanup Efforts

To date EPA and NHDES have invested over $19 million in investigation and interim cleanup work at the site, including:

Tank/Drum Removal: Removal of approximately 1.1 million gallons of waste oil, sludge and water; removal of 800 drums and cleaning, dismantling, and removal of over 100 above ground storage tanks. The effort was completed in November 1997.

Floating Oil Removal: A 120 feet long interceptor trench was installed in 1997 to capture oil seeping into Kelley Brook. Approximately 143 vacuum extraction wells were installed across the site to remove floating oil from the groundwater table; the system operated from 2000 until 2005 and recovered over 90,000 gallons of oil. Operations ceased when it no longer was removing significant volumes of oil and the system was dismantled in the summer of 2008.

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New England, however, coordinates, directs and reviews the work of the performing parties and their representatives to assure regulatory compliance. EPA New England and NHDES, in partnership, are closely overseeing the work being done at the Beede site and are ensuring all appropriate public and private interests are kept informed and concerns are considered.

Since the signing of the Consent Decree, the settling parties have been gathering the information needed to design the cleanup and in January 2008 assumed NHDES' groundwater monitoring program. All of these efforts have been performed under EPA and NHDES oversight.

Who Owns the Site?

To make it easier to perform the cleanup and as part of the Consent Decree, in December 2009, ownership of the two parcels comprising the site was transferred from the Hampshire Realty Trust and Sun Realty Trust to the current owner, a limited liability corporation established by the major settling parties, called "11 Kelley and 42 Old County Road Properties, LLC."

More information can be found at the site repository housed at the Plaistow Library, 85 Main Street, or online at: **www.epa.gov/region1/superfund/sites/beede**

EPA United States Environmental Protection Agency

June 2009

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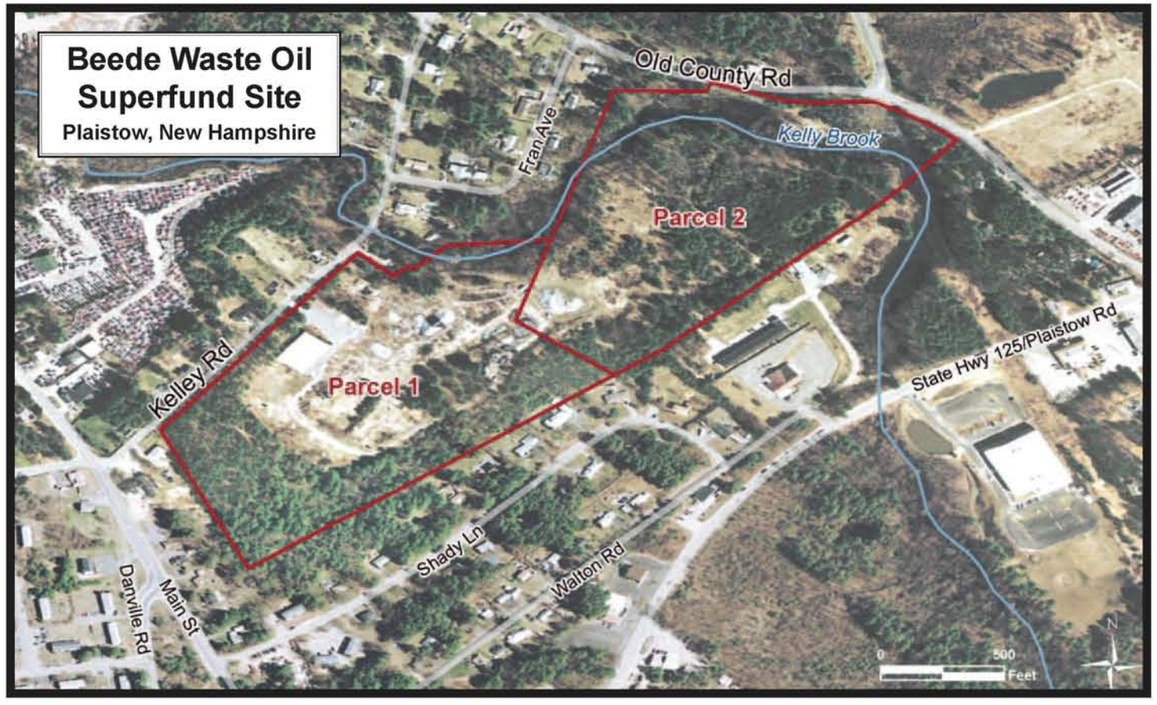
U.S. Environmental Protection Agency (EPA)
Beede Waste Oil
Superfund Site Update

EPA Superfund Division — **June 2009**

Now that a settlement agreement has been reached, efforts are underway to gather more information, prepare the engineering designs and implement the nearly $50 million cleanup of the Beede Site.



What is the Beede Site Cleanup Plan?

In 2004, after receiving public comment, EPA selected a comprehensive cleanup plan for the site. Specifically, the plan calls for:

- Groundwater extraction from the site, treatment of the water, and discharge of the water back into the water table on the site;
- Excavation and off-site disposal of contaminated sediment (approximately 1,000 cubic yards) from Kelley Brook;
- Excavation and off-site disposal of contaminated soil from the soil piles and contaminated soil at depths between 0 and 10 feet (about 80,000 cubic yards);
- Treatment of approximately 70,000 cubic yards of contaminated soil deeper than 10 feet through the use of soil vapor extraction technology;
- Long-term monitoring of on-site and off-site groundwater, surface water and sediment to determine if cleanup standards have been met; and
- Establishment of land use restrictions (also called institutional controls) to ensure future uses will not disturb any

(above) ***Parcel 1*** *(nearly 22 acres) beginning in the 1920s was the location of petroleum and waste oil storage/handling/recycling operations.*

Parcel 2 *(19 acres) was used largely for commercial sand and gravel operations.*

Visualize This

80,000 cubic yards of soil is about 6 football fields each covered with around 6 feet of soil.

Soil Vapor Extraction or SVE removes harmful chemicals, in the form of vapors, from the soil. Vapors are the gases that form when chemicals evaporate. The vapors are removed from the ground by applying a vacuum to pull the vapors out. Extraction wells are drilled into the soil and a vacuum is attached to the wells and pulls the air and vapors through the soil and up to the surface where they are collected and disposed of safely. To speed up the process, the soil or the air injected into the ground may be heated, which helps evaporate the chemicals faster.

of the contaminants in the soil below 10 feet and to prohibit the use of the site's groundwater as a drinking water source until cleanup standards have been achieved.

The nearly $50 million cleanup will result in the property meeting EPA's residential reuse standards, which are the Agency's most stringent cleanup standards.

What is Currently Happening at the Site?

Gathering Further Information

Before cleanup can begin, more information needs to be gathered in order to better design the cleanup. These efforts began last summer and will continue until the end of 2009 and primarily include:

- additional soil and sediment sampling to help refine the area and depth of excavation at depths between 0 and 10 feet;

- additional deep soil and groundwater samples to help refine the area and depth of soil vapor extraction treatment;

- on-site and laboratory tests (e.g., groundwater pump tests and tests to determine how porous the soil is) to collect the necessary information for the design of the soil vapor extraction and groundwater extraction and treatment systems; and

- continued groundwater monitoring on and off-site to evaluate the contaminant plume and existing water supply wells.

In addition to these sampling efforts, an evaluation of potential routes of vehicular and pedestrian access to the site will also be conducted, including evaluating existing access routes and constructing new access routes from Parcel 2, including a bridge over Kelley Brook.

Ongoing Groundwater Monitoring

The New Hampshire Department of Environmental Services (NHDES) has been routinely monitoring residential wells in the vicinity of the Beede Site since 1991. The monitoring program currently includes approximately 50 residential wells which are monitored for the presence of volatile organic compounds (VOCs). VOCs include many of the chemicals found in petroleum products (such as benzene, toluene and xylenes) and also include chlorinated solvents (such as trichloroethylene and perchloroethylene). Up to 17 of those wells are sampled every three months and every three years samples are taken from about 50 water supply wells.

The monitoring efforts to date have shown that seven water supply wells are currently impacted by site-related VOCs and only three residential wells have VOCs present above State standards. As a result, all those served by these three wells are currently receiving bottled water or carbon filtration treatment to remove or reduce the VOC contamination to safe levels.

In 2008, the NHDES required the analysis of a newly identified contaminant, 1,4-dioxane, at all hazardous waste sites including the Beede Site. 1,4-dioxane is a solvent stabilizer and is also found in many consumer products including cosmetics, shampoos and soap. In February 2009, it was reported that 1,4-dioxane was detected in groundwater at the Beede Site. The collection of water samples from nearby residential wells began immediately to determine if 1,4-dioxane is present at levels above the State's 3 parts per billion standard. Since February, samples were taken from 27 properties and the same seven wells that have been impacted by other VOCs from the site have also been impacted by 1,4-dioxane. Of those seven, three wells currently have 1,4-dioxane at concentrations above the State's standard of 3 parts per billion and those households are provided bottled water regularly. Activated carbon was changed on all Point-of-Entry (POE) treatment systems and samples are now taken monthly to monitor the performance of the POEs. Monitoring for 1,4-dioxane and VOCs will continue as part of the site's comprehensive cleanup plan.

What Will Happen Next Year?

The information gathered in 2008 and 2009 will inform and refine the cleanup designs. Engineering design work is scheduled to start in January 2010. A major aspect of that design work will include evaluating in detail any potential impacts the required groundwater extraction could have on nearby residential wells and, if necessary, determining the corrective actions that would be performed prior to startup of the groundwater extraction system. With the potential of having up to seven wells extracting 100 to 200 gallons per minute and then, after treatment, returning that volume back into the site's water table, clearly a full understanding is needed to avoid unintended consequences like disturbing area well outputs or causing contamination in residential wells previously not impacted.

When Will the Cleanup Begin?

The comprehensive cleanup is expected to start in 2011. Aside from the groundwater component, the soil and sediment cleanup is slated to conclude in 2013.

Will EPA Hold More Public Meetings?

As the design work gets developed, EPA and NHDES will hold more public meetings to keep the community informed, be available to answer questions, and get public input.

What Has Been Happening in Recent Years?

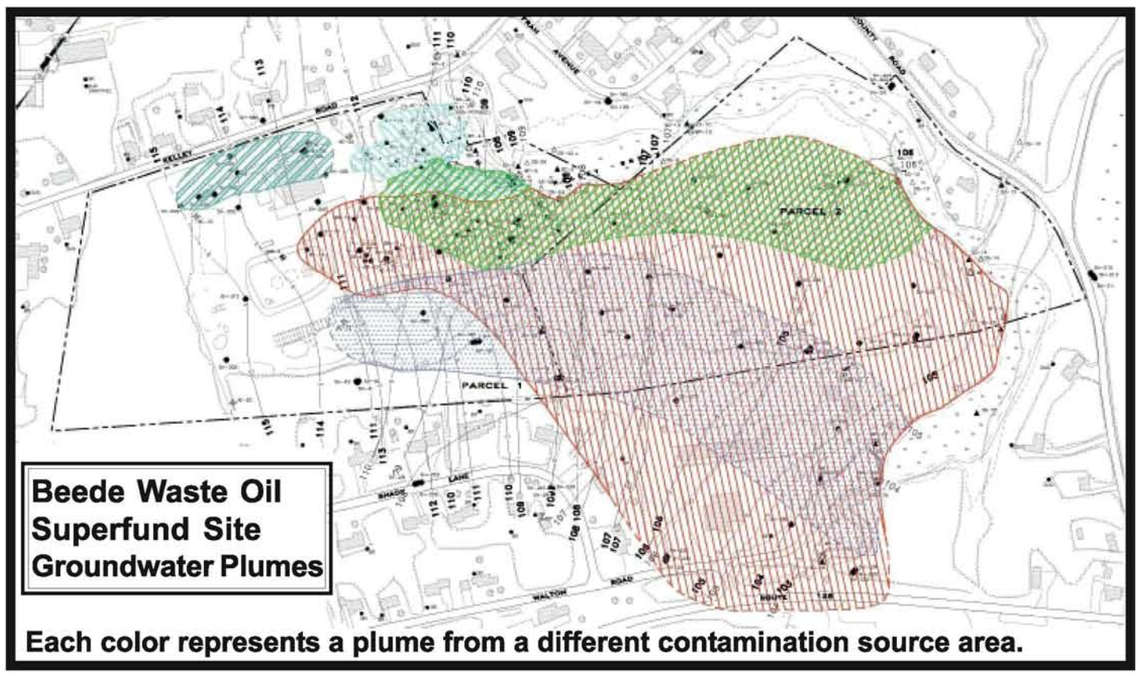
A comprehensive legal settlement agreement, also called a Consent Decree, between the federal government, the state of New Hampshire and 101 potentially responsible parties was lodged with the court in April 2007 and entered as a final order by the New Hampshire Federal District Court in July 2008. The Consent Decree secures a commitment from the settling parties to finance and conduct a comprehensive clean up of the Beede site worth an estimated $48 million. In addition, the United States and the State will recover over $17 million in past costs and receive payment for up to about $9 million in future oversight costs.

In addition, between 2001 and 2004, EPA New England completed four "cashout" settlements with 1,199 parties who individually contributed relatively small volumes of waste to the site ("de minimis" parties). These settlements raised over $17.3 million for site-related costs.

Who is Doing the Work?

Under the Consent Decree, the settling parties are required to implement the 2004 comprehensive cleanup plan. To do so, the group has hired a project manager and an environmental consulting company. EPA

(below) Site groundwater plumes



Site Background

The nearly 41-arce Beede site is located in a residential Plaistow, NH neighborhood that is served entirely by private drinking water supply wells. The facility was in operation from the 1920s through August 1994 as a waste oil storage and recycling facility. The site is contaminated primarily with waste oil that seeped into the ground from a variety of sources, including a former unlined lagoon, underground storage tanks, aboveground storage tanks, and numerous drums located throughout the property. The site was added to EPA's National Priorities (Superfund) List in December 1996. The principal threats to human health and the environment are polychlorinated biphenyls (PCBs) and lead in the shallow soil, VOCs in the deep soil, and VOCs in the groundwater. Lower risks are posed by PCBs and petroleum hydrocarbon compounds (PAHs) in a relatively small amount of Kelley Brook sediment and VOCs and PAHs in Kelley Brook waters.